University of Virginia
HEALTH SYSTEM

# M.D./Ph.D. Program Newsletter

Volume 3, No. 1 Spring 2001

## Finding a Fellowship

An important part of any researcher's career is finding funding for his/her work. As students, we have exercises such as writing qualifying exams or thesis proposals in the form of a research grant. There is of course nothing better than submitting for the real thing.

Why seek a pre-doctoral fellowship? It is true that most MD/PhD students are guaranteed support during their time in medical and graduate school, but that monetary support changes over time. Rather than receiving stipend and tuition from the Medical Scientist Training Grant, you may find that after the fourth year your support comes from departmental training grants or from your mentor's grant. In place of these training grants, you can apply for your own grant. A recipient of the prestigious NRSA pre-doctoral fellowship, Carolyn Cronin had this to say about her experience, " I derived many benefits from writing for my grant ... (it) made me really focus on the project and think critically about (each step). I would really encourage people to write for

(Continued pg. 2)

### Upcoming Events:

| | |
|---|---|
| Dr. Brian Druker Seminar | 4/18/01 |
| GBS Symposium | 4/24/01 |
| MSTP RIP Dinner | 5/15/01 |
| Graduation | 5/20/01 |
| MSTP Summer Retreat | 8/17-8/19 |
| Dr. Allen Steere Seminar | 10/26/01 |

## Distinguished Lecturers

Our first distinguished lecturer for the millenium will be Brian J. Druker, M.D. from Oregon Health Sciences University(OHSU). He is currently a Professor of Medicine in the Division of Hematology & Medical Oncology and the OHSU MD/PhD Program Director. Dr. Druker studies the BCR-ABL oncogene, identifies and characterizes the substrate targets of BCR-ABL, and evaluates a specific inhibitor of the ABL protein tyrosine kinase. This inhibitor, STI-571, produced by Novartis Pharmaceuticals is currently under Phase II clinical trials and has shown promising results for treating Chronic Myelogenous Leukemia (CML). We are very honored to be hosting Dr. Druker's lecture in co-sponsorship with the Cancer Center. His lecture will take place on April 18th at 4 pm in the Jordan Hall Conference Center Auditorium, and is titled "STI-571: A Tyrosine Kinase Inhibitor for the Treatment of CML - Validating the Promise of Molecularly Targeted Therapy." His talk promises to be very exciting for all who attend.

Dr. Brian Druker

Later in the year, Dr. Allen Steere from Tufts University School of Medicine will be discussing his work on *B. burgdorferi*. Dr. Steere is a renowned clinician known for being among the first to identify and describe Lyme disease. More details about Dr. Steere's seminar will be forthcoming.

## Fellowships

(continued from pg. 1)

grants during graduate school. It is not that much extra work, since in most cases you will have to write up your thesis proposal anyway, and the benefits are worth it."

The first place to start is to determine which fellowships are available. Sources of such information are the Graduate Programs Office (GPO), departmental offices and bulletins, the Office of Grants and Contracts, and your mentor. The web has many useful sites as well: www.med.virginia.edu/schools/res_grants.html and www.grantsnet.com. Once you have decided which fellowship to apply for, be sure to read the requirements carefully, as each funding agency differs in their application procedure. Try not to procrastinate. All grant applications sent from the University must be approved through the Office of Grants and Contracts at least one week before the grant is due.

There are many advantages when you do receive your own research award. Many fellowships provide funding for your stipend, tuition, research expenses, and even an allotment for travel expenses to attend scientific meetings. Furthermore, there is a monetary award from the GPO of an extra thousand dollars attached to your stipend for receiving external funding. And lastly, there is always the prestige and honor of having your research accepted, as well as the useful experience of having gone through the process of writing a grant and wading through the paperwork. As Cronin put it, " Having a grant to list can only help the C.V. and encourage funding agencies to grant (you) support in the future."

MD/PhD students who have received predoctoral fellowships include:

Carolyn Cronin -
NRSA Predoctoral Fellowship
Rumey Ishizawar -
U.S.A.M.R.M.C. Breast Cancer Predoctoral Fellowship
Tresa Thompkins-
NRSA Predoctoral Fellowship

## 1999-2001 Publication List

Alard P, Thompson C, **Agersborg SS**, Thatte J, Setiady Y, Samy E, Tung KS. Endogenous oocyte antigens are required for rapid induction and progression of autoimmune ovarian disease following day-3 thymectomy. J Immunol. 2001 Apr 1;166(7):4363-9.

**Agersborg SS**, Garza KM, Tung KS. Intestinal parasitism terminates self tolerance and enhances neonatal induction of autoimmune disease and memory. Eur J Immunol. 2001 Mar;31(3):851-9.

Garza KM, **Agersborg SS**, Baker E, Tung KS. Persistence of physiological self antigen is required for the regulation of self tolerance. J Immunol. 2000 Apr 15;164(8):3982-9.

Lou YH, Park KK, **Agersborg S**, Alard P, Tung KS. Retargeting T cell-mediated inflammation: a new perspective on autoantibody action. J Immunol. 2000 May 15;164(10):5251-7.

**Brill LB** 2nd, Pfister KK. Biochemical and molecular analysis of the mammalian cytoplasmic dynein intermediate chain. Methods. 2000 Dec;22(4):307-16.

Swerdlow RH, Golbe LI, Parks JK, **Cassarino DS**, Binder DR, Grawey AE, Litvan I, Bennett JP Jr, Wooten GF, Parker WD. Mitochondrial dysfunction in cybrid lines expressing mitochondrial genes from patients with progressive supranuclear palsy. J Neurochem. 2000 Oct;75(4):1681-4.

**Cassarino DS**, Halvorsen EM, Swerdlow RH, Abramova NN, Parker WD Jr, Sturgill TW, Bennett JP Jr. Interaction among mitochondria, mitogen-activated protein kinases, and nuclear factor-kappaB in cellular models of Parkinson's disease. J Neurochem. 2000 Apr;74(4):1384-92.

Swerdlow RH, Parks JK, **Cassarino DS**, Shilling AT, Bennett JP Jr, Harrison MB, Parker WD Jr. Characterization of cybrid cell lines containing mtDNA from Huntington's disease patients. Biochem Biophys Res Commun. 1999 Aug 11;261(3):701-4.

**Cassarino DS**, Parks JK, Parker WD Jr, Bennett JP Jr. The parkinsonian neurotoxin MPP+ opens the mitochondrial permeability transition pore and releases cytochrome c in isolated mitochondria via an oxidative mechanism. Biochim Biophys Acta. 1999 Jan 6;1453(1):49-62.

**Cassarino DS**, Bennett JP Jr. An evaluation of the role of mitochondria in neurodegenerative diseases: mitochondrial mutations and oxidative pathology, protective nuclear responses, and cell death in neurodegeneration. Brain Res Brain Res Rev. 1999 Jan;29(1):1-25. Review.

Srikiatkhachorn A, **Chang W**, Braciale TJ. of Th-1 and Th-2 responses by respiratory syncytial virus attachment glycoprotein is epitope and major histocompatibility complex independent. J Virol. 1999 Aug;73(8):6590-7.

Bigler D, Takahashi Y, **Chen MS**, Almeida EA, Osbourne L, White JM. Sequence-specific interaction between the disintegrin domain of mouse ADAM 2 (fertilin beta) and murine eggs. Role of the alpha(6) integrin subunit. J Biol Chem. 2000 Apr 21;275(16):11576-84.

**Chen MS**, Tung KS, Coonrod SA, Takahashi Y, Bigler D, Chang A, Yamashita Y, Kincade PW, Herr JC, White JM. Role of the integrin-associated protein CD9 in binding between sperm ADAM 2 and the egg integrin alpha6beta1: implications for murine fertilization. Proc Natl Acad Sci U S A. 1999 Oct 12;96(21):11830-5.

MSTP Paintball Warriors
March 31, 2001

Coonrod SA, Naaby-Hansen S, Shetty J, Shibahara H, **Chen M**, White JM, Herr JC. Treatment of mouse oocytes with PI-PLC releases 70-kDa (pI 5) and 35- to 45-kDa (pI 5.5) protein clusters from the egg surface and inhibits sperm-oolemma binding and fusion. Dev Biol. 1999 Mar 15;207(2):334-49.

**Chen MS**, Almeida EA, Huovila AP, Takahashi Y, Shaw LM, Mercurio AM, White JM. Evidence that distinct states of the integrin alpha6beta1 interact with laminin and an ADAM. J Cell Biol. 1999 Feb 8;144(3):549-61.

Cheung P, Tanner KG, **Cheung WL**, Sassone-Corsi P, Denu JM, Allis CD. Synergistic coupling of histone H3 phosphorylation and acetylation in response to epidermal growth factor stimulation. Mol Cell. 2000 Jun;5(6):905-15.

**Cheung WL**, Briggs SD, Allis CD. Acetylation and chromosomal functions. Curr Opin Cell Biol. 2000 Jun;12(3):326-33. Review.

Biscardi JS, **Ishizawar RC**, Silva CM, Parsons SJ. Tyrosine kinase signalling in breast cancer: Epidermal growth factor receptor and c-Src interactions in breast cancer. Breast Cancer Res. 2000;2(3):203-10.

**Khan SM**, **Cassarino DS**, Abramova NN, Keeney PM, Borland MK, Trimmer PA, Krebs CT, Bennett JC, Parks JK, Swerdlow RH, Parker WD Jr, Bennett JP Jr.
Alzheimer's disease cybrids replicate beta-amyloid abnormalities through cell death pathways. Ann Neurol. 2000 Aug;48(2):148-55.

**Khan SM**, Smith TS, Bennett JP Jr. Effects of single and multiple treatments with L-dihydroxyphenylalanine (L-DOPA) on dopamine receptor-G protein interactions and supersensitive immediate early gene responses in striata of rats after reserpine treatment or with unilateral nigrostriatal lesions. J Neurosci Res. 1999 Jan 1;55(1):71-9.

Jung F, Johnson AD, **Kumar MS**, Wei B, Hautmann M, Owens GK, McNamara C. Characterization of an E-box-dependent cis element in the smooth muscle alpha-actin promoter. Arterioscler Thromb Vasc Biol. 1999 Nov;19(11):2591-9.

Nakamoto RK, Ketchum CJ, **Kuo PH**, Peskova YB, Al-Shawi MK. Molecular mechanisms of rotational catalysis in the F(0)F(1) ATP synthase. Biochim Biophys Acta. 2000 May 31;1458(2-3):289-99. Review.

**Kuo PH**, Nakamoto RK. Intragenic and intergenic suppression of the Escherichia coli ATP synthase subunit a mutation of Gly-213 to Asn: functional interactions between residues in the proton transport site. Biochem J. 2000 May 1;347 Pt 3:797-805.

Dodson JM, **Lenkowski PW Jr**, Eubanks AC, Jackson TF, Napodano J, Lyerly DM, Lockhart LA, Mann BJ, Petri WA Jr. Infection and immunity mediated by the carbohydrate recognition domain of the Entamoeba histolytica Gal/GalNAc lectin. J Infect Dis. 1999 Feb;179(2):460-6.

Nepom GT, Lippolis JD, White FM, Masewicz S, Marto JA, Herman A, **Luckey CJ**, Falk B, Shabanowitz J, Hunt DF, Engelhard VH, Nepom BS. Identification and modulation of a naturally processed T cell epitope from the diabetes-associated autoantigen human glutamic acid decarboxylase 65 (hGAD65). Proc Natl Acad Sci U S A. 2001 Feb 13;98(4):1763-8.

Colella TA, Bullock TN, Russell LB, Mullins DW, Overwijk WW, **Luckey CJ**, **Pierce RA**, Restifo NP, Engelhard VH. Self-tolerance to the murine homologue of a tyrosinase-derived melanoma antigen: implications for tumor immunotherapy. J Exp Med. 2000 Apr 3;191(7):1221-32.

Gonias SL, Carmichael A, **Mettenburg JM**, Roadcap DW, Irvin WP, Webb DJ. Identical or overlapping sequences in the primary structure of human alpha(2)-macroglobulin are responsible for the binding of nerve growth factor-beta, platelet-derived growth factor-BB, and transforming growth factor-beta. J Biol Chem. 2000 Feb 25;275(8):5826-31.

**Nemergut ME**, Macara IG. Nuclear import of the ran exchange factor, RCC1, is mediated by at least two distinct mechanisms. J Cell Biol. 2000 May 15;149(4):835-50.

**Parast MM,** Aeder S, Sutherland AE. Trophoblast giant-cell differentiation involves changes in cytoskeleton and cell motility. Dev Biol. 2001 Feb 1;230(1):43-60.

**Parast MM**, Otey CA. Characterization of palladin, a novel protein localized to stress fibers and cell adhesions. J Cell Biol. 2000 Aug 7;150(3):643-56.

**Pierce RA**, Field ED, den Haan JM, Caldwell JA, White FM, Marto JA, Wang W, Frost LM, Blokland E, Reinhardus C, Shabanowitz J, Hunt DF, Goulmy E, Engelhard VH. Cutting edge: the HLA-A*0101-restricted HY minor histocompatibility antigen originates from DFFRY and contains a cysteinylated cysteine residue as identified by a novel mass spectrometric technique. J Immunol. 1999 Dec 15;163(12):6360-4.

Brinckerhoff LH, Kalashnikov VV, Thompson LW, Yamshchikov GV, **Pierce RA**, Galavotti HS, Engelhard VH, Slingluff CL Jr. Terminal modifications inhibit proteolytic degradation of an immunogenic MART-1(27-35) peptide: implications for peptide vaccines. Int J Cancer. 1999 Oct 29;83(3):326-34.

Gilchrist CA, Holm CF, Hughes MA, **Schaenman JM**, Mann BJ, Petri WA. Identification and characterization of an entamoeba histolytica URE3 sequence-specific DNA binding protein containing EF-hand motifs. J Biol Chem. 2001 Jan 18 [epub ahead of print]

**Schaenman JM**, Gilchrist CA, Mann BJ, Petri WA Jr. Identification of two Entamoeba histolytica sequence-specific URE4 enhancer-binding proteins with homology to the RNA-binding motif RRM. J Biol Chem. 2001 Jan 12;276(2):1602-9.

**Scoggins RM**, Taylor JR Jr, Patrie J, van't Wout AB, Schuitemaker H, Camerini D. Pathogenesis of primary R5 human immunodeficiency virus type 1 clones in SCID-hu mice. Virol. 2000 Apr;74(7):3205-16.

**Steigerwald-Mullen P**, Kurilla MG, Braciale TJ. Type 2 cytokines predominate in the human CD4(+) T-lymphocyte response to Epstein-Barr virus nuclear antigen 1. J Virol. 2000 Aug;74(15):6748-59.

**Tholpady SS**, Schlosser R, Spotnitz W, Ogle RC, Lindsey WH. Repair of an osseous facial critical-size defect using augmented fibrin sealant. Laryngoscope. 1999 Oct;109(10):1585-8.

This Newsletter is published
twice a year.
Ideas and comments are welcome.

Rumey Ishizawar, Editor
ri4n@virginia.edu
Jane Cornelius
jcc5k@virginia.edu
804-924-1294
Contributing writers:
Nima Mosammaparast

# 2001 MSTP Residency Match Results

| | |
|---|---|
| Sally Agersborg | Pathology, UCSF, San Francisco<br>Ph.D., Microbiology |
| Michellee Chen | OB/Gyn, Univ. Colorado, Denver<br>Ph.D., Cell Biology |
| John Luckey | Pathology, Brigham & Womens Hosp., Boston<br>Ph.D , Microbiology |
| Claudio Mosse | Pathology, Johns Hopkins Hosp., Baltimore<br>Ph.D., Microbiology |
| Joanna Schaenman | Internal Med., Stanford Univ., Palo Alto<br>Ph.D., Microbiology |

University of Virginia Medical School 2001 Match Results

**60% matched their First Choice**

**90% matched 1 of their Top 3 Choices**

---

## M.D./Ph.D. Program
## University of Virginia

Graduate Programs Office
P.O. Box 800738
Charlottesville, VA 22908

http://www.med.virginia.edu/mstp
medgpo16@virginia.edu
(804) 924-1294 (phone)
(804) 924-0140 (fax)